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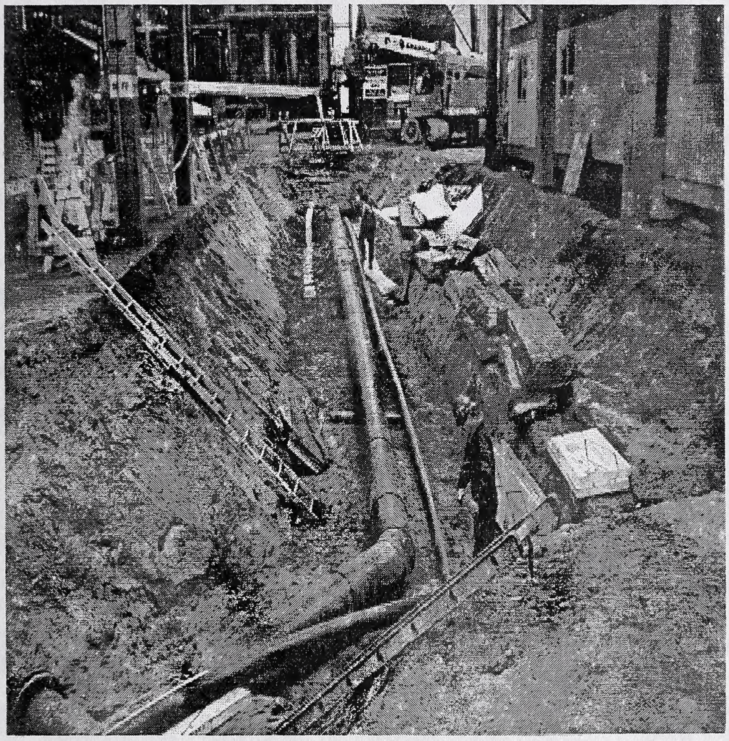
OCCUPATIONAL INJURY AND DISEASE IN ALBERTA

Construction, 1994 to 1998



Alberta
Construction
Safety
Association
Industries

Alberta
HUMAN RESOURCES
AND EMPLOYMENT

July 1999

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1. Introduction

The Mission of Alberta Human Resources and Employment

The mission of Alberta Human Resources and Employment is to work in partnership with Albertans to promote safe and healthy workplaces, a quality working life, and comprehensive safety systems. To this end, Alberta Human Resources and Employment recognizes that monitoring health and safety in Alberta will help to ensure that primary workplace health and safety concerns are actively managed and resources directed where most needed.

This report provides an estimation of the risk of injury or disease (lost-time claim rate) in addition to the descriptive information about the incidents and injured workers in the Alberta Construction Safety Association (ACSA) industries. This report also looks at the number of employers that received a Certificate of Recognition (CoR) as result of an external audit and those that were registered with the ACSA Partners in Injury Reduction (PIR) groups. Cost of injuries and revenue in terms of insurable earning and premiums are also presented. Finally, a summary of occupational fatalities accepted by the Workers' Compensation Board (WCB) and descriptions of those fatalities investigated by OHS are provided.

Description of ACSA Industries

The ACSA industries can be subdivided into the following PIR groups of industries: Drywall/Residential Construction, Glaziers, Industrial Construction, Masonry, Mechanical/Electrical/Insulation, Roadbuilders, Roofers, and Scaffolders. For a complete listing of the industry codes for each group, see Appendix B.

Injury and Disease Analysis Summary

In 1998,

- Estimated person-years and lost-time claims both increased by 13.4% and 5.9% respectively. This resulted in a 7.7% reduction in the LTC rate to 4.8 per 100 person-years worked from 5.2 in 1997.
- All the PIR group of industries saw a reduction in their LTC rate with the exception of Industrial Construction that had a 2% increase.
- About 42% of the injuries and disease were sprains and strains.
- The back was the most commonly body part injured.
- 23% of the lost-time claimants were young workers (15-24 years)

2. Lost-Time Claim (LTC) & Duration Rates

All ACSA Industries

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	20,637	$17,659,869	81,295	161,456	199	3,950	4.9
1995	21,680	$19,525,147	77,189	159,100	206	3,773	4.9
1996	22,699	$19,871,930	85,643	170,336	199	4,277	5.0
1997	25,413	$26,588,048	110,007	225,152	205	5,666	5.2
1998	27,143	$32,190,084	124,762	244,914	196	6,005	4.8

2.1 LTC Rates By PIR Group of Industries

Drywall/Residential Construction

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	8,391	$4,890,179	19,527	50,259	257	1,199	6.1
1995	8,772	$4,832,887	18,356	47,719	260	1,029	5.6
1996	9,061	$4,702,062	20,993	51,180	244	1,194	5.7
1997	9,728	$7,648,210	26,140	73,430	281	1,544	5.9
1998	10,236	$8,560,311	31,631	77,120	244	1,681	5.3

Glaziers

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	453	$530,217	4,244	5,104	120	208	4.9
1995	464	$362,342	3,871	3,792	98	192	5.0
1996	461	$588,497	4,451	6,270	141	312	7.0
1997	476	$868,050	5,565	8,154	147	442	7.9
1998	483	$1,737,271	5,565	10,277	185	416	7.5

Industrial Construction

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	4,055	$3,432,758	17,196	31,336	182	801	4.7
1995	4,424	$4,505,230	17,516	35,174	201	912	5.2
1996	4,692	$3,986,898	20,215	35,458	175	991	4.9
1997	5,594	$5,085,611	25,149	44,579	177	1,308	5.2
1998	6,144	$7,661,185	28,524	58,185	204	1,506	5.3

Masonry

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	212	$156,261	603	1,747	290	47	7.8
1995	213	$154,319	548	1,613	295	43	7.9
1996	208	$174,651	559	1,809	324	48	8.6
1997	203	$252,591	650	2,573	396	60	9.2
1998	198	$311,205	761	2,622	345	68	8.9

Mechanical/Electrical/Insulation

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	2,805	$2,140,446	14,142	18,745	133	607	4.3
1995	2,951	$2,482,703	14,008	17,330	124	613	4.4
1996	3,069	$2,322,988	14,934	19,929	133	666	4.5
1997	3,503	$3,008,181	20,937	22,666	108	807	3.9
1998	3,651	$3,674,928	24,133	24,003	99	917	3.8

Roadbuilders

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	3,980	$5,188,480	22,664	42,662	188	854	3.8
1995	4,108	$6,337,284	20,062	43,916	219	764	3.8
1996	4,392	$6,742,312	21,113	42,801	203	853	4.0
1997	4,996	$7,403,891	27,166	54,993	202	1,173	4.3
1998	5,476	$8,069,202	29,210	57,613	197	1,114	3.8

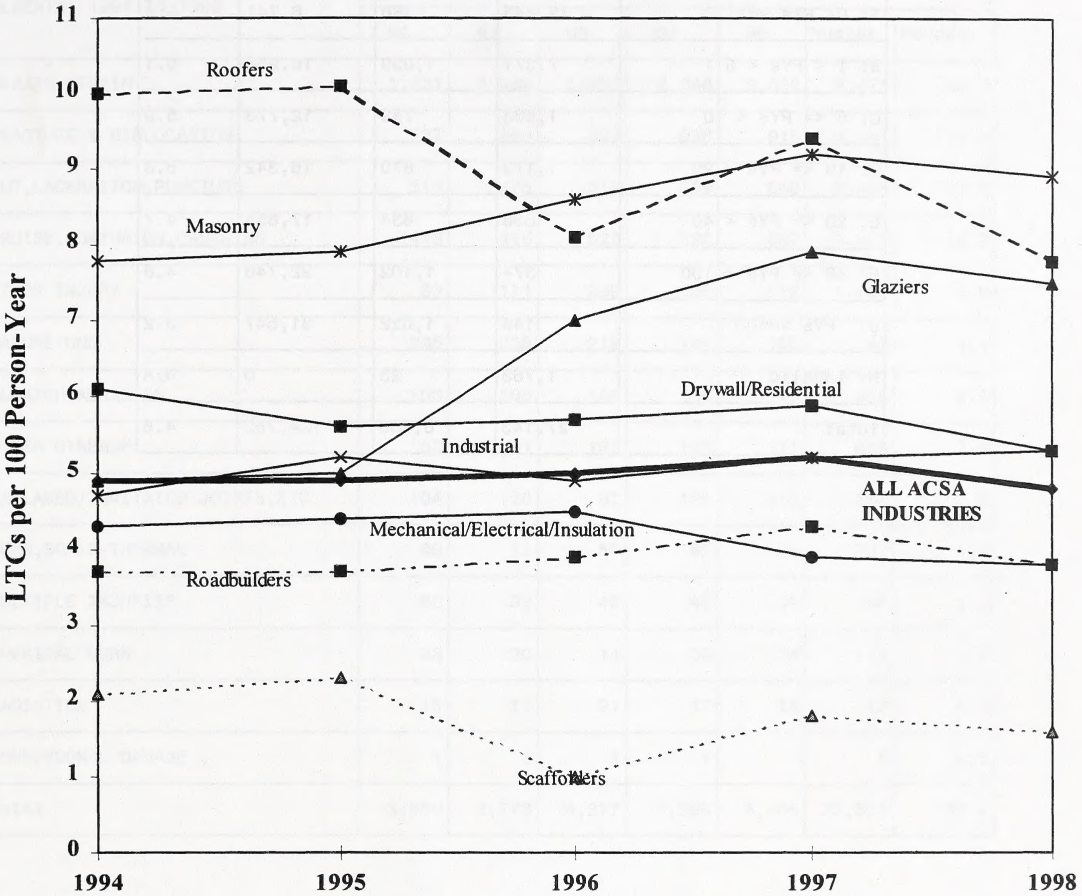
Roofers

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	711	$1,206,589	2,187	10,319	472	219	10.0
1995	714	$771,243	1,992	8,602	432	201	10.1
1996	782	$1,311,721	2,513	12,422	494	204	8.1
1997	870	$2,220,877	3,342	18,015	539	313	9.4
1998	906	$2,071,007	3,602	14,074	391	281	7.8

Scaffolders

Year	# of Accounts	Cost	Person Years	Days Lost	Duration Rate	LTCs	LTC Rate
1994	30	$114,938	732	1,284	N/A	15	2.1
1995	34	$79,138	836	954	N/A	19	2.3
1996	34	$42,801	864	467	N/A	9	1.0
1997	43	$100,638	1,058	742	N/A	19	1.8
1998	49	$104,975	1,336	1,020	N/A	22	1.6

LTC Rates for All ACSA Industries and PIR Groups of Industries Alberta, 1994-1998



Lost-Time Claim Rates	1994	1995	1996	1997	1998
ALL ACSA INDUSTRIES	4.9	4.9	5.0	5.2	4.8
Drywall/Resdential Construction	6.1	5.6	5.7	5.9	5.3
Glaziers	4.9	5.0	7.0	7.9	7.5
Industrial Construction	4.7	5.2	4.9	5.2	5.3
Masonry	7.8	7.9	8.6	9.2	8.9
Mech/Electrical/Insulation	4.3	4.4	4.5	3.9	3.8
Roadbuilders	3.7	3.7	3.9	4.3	3.8
Roofers	10.0	10.1	8.1	9.4	7.8
Scaffolders	2.1	2.3	1.0	1.8	1.6

2.3 LTC Rates of all ACSA Industries by Size[1] of Employer: 1998

Size of Employer	# of Accounts	LTCs	Person - Years	LTC Rate
A: 0< PYs <=1	13,845	366	6,741	5.4
B: 1 < PYs < 5	7,371	1,039	16,958	6.1
C: 5 <= PYs < 10	1,833	749	12,773	5.9
D: 10 <= PYs < 20	1,173	870	16,342	5.3
E: 20 <= PYs < 40	636	834	17,655	4.7
F: 40 <= PYs < 100	374	1,102	22,746	4.8
G: PYs >=100	148	1,022	31,547	3.2
H: Invalid	1,763	23	0	N/A
Total	27,143	6,005	124,762	4.8

---

[1] Size is measured in terms of estimated person-years (PYs).

3. Analysis of the Lost-time Claims

3.1 Nature of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
SPRAIN,STRAIN	1,621	1,462	1,603	2,246	2,539	9,471	40.0
FRACTURE & DISLOCATION	537	560	621	958	915	3,591	15.2
CUT,LACERATION,PUNCTURE	514	475	519	699	680	2,887	12.2
BRUISE,CONTUSION,CRUSHING	418	416	529	596	567	2,526	10.7
OTHER INJURY	83	111	289	406	512	1,401	5.9
NATURE-UNS	285	258	218	149	139	1,049	4.4
SCRATCH,ABRASION	108	105	149	155	177	694	2.9
OTHER DISEASE	82	91	131	149	171	624	2.6
INFLAMED/IRRITATED JOINTS,ETC.	104	126	87	129	110	556	2.3
BURN,SCALD-THERMAL	69	43	55	82	88	337	1.4
MULTIPLE INJURIES	80	92	40	40	54	306	1.3
CHEMICAL BURN	33	20	14	39	35	141	0.6
RADIATION	15	11	21	17	18	82	0.3
NONPERSONAL DAMAGE	1	3	1	1	.	6	0.0
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

3.2 Part of Body Affected

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
BACK	1,064	951	1,056	1,374	1,561	6,006	25.4
OTHER TRUNK	431	446	515	668	721	2,781	11.7
ANKLE(S) & FOOT(FEET)-NOT TOES	473	429	483	693	647	2,725	11.5
LEG(S)	429	383	435	598	652	2,497	10.5
FINGER(S)	384	392	470	597	609	2,452	10.4
WRIST(S) & HAND(S)-NOT FINGERS	405	374	377	549	578	2,283	9.6
ARM(S)(ABOVE WRIST)	189	214	223	277	307	1,210	5.1
OTHER HEAD, NECK	187	203	204	282	275	1,151	4.9
EYE(S)-OPTIC NERVE,VISION	164	140	175	215	227	921	3.9
MULTIPLE MAJOR BODY PARTS	74	93	158	159	190	674	2.8
FACE	53	58	53	78	79	321	1.4
TOE(S)	37	32	38	54	41	202	0.9
UPPER EXTREMITIES-MULTIPLE	13	9	27	61	50	160	0.7
LOWER EXTREMITIES-MULTIPLE	8	13	33	32	28	114	0.5
RESPIRATORY SYSTEM	14	21	8	5	18	66	0.3
BODY SYSTEMS (NOT RESP.)	12	8	8	11	13	52	0.2
PART OF BODY-NEC,UNS	7	3	10	10	7	37	0.2
UPPER EXTREMITIES-NEC,UNS	2	.	3	2	2	9	0.0
NONPERSONAL (EG. EYEGLASSES)	1	3	1	1	.	6	0.0
LOWER EXTREMITIES-NEC,UNS	3	1	.	.	.	4	0.0
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

3.3 Source of Injury

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
SOURCE-UNS	647	716	986	911	1,034	4,294	18.1
WORKING SURFACES	548	559	572	911	903	3,493	14.8
METAL ITEMS-NEC	481	463	422	666	705	2,737	11.6
BODILY MOTION	477	427	431	634	664	2,642	11.1
SOURCE-NEC	176	235	297	403	395	1,506	6.4
VEHICLES	234	216	239	260	319	1,268	5.4
HANDTOOLS-UNPOWERED	201	206	205	244	266	1,122	4.7
BOXES, CONTAINERS	161	154	157	204	231	907	3.8
MACHINES	106	127	177	245	241	896	3.8
WOOD ITEMS-NEC	163	97	139	183	210	792	3.3
HANDTOOLS-POWERED	180	121	125	181	177	784	3.3
BUILDINGS, STRUCTURES	97	82	126	186	196	687	2.9
FURNITURE & FIXTURES	76	56	69	96	86	383	1.6
PLANTS, TREES	46	40	57	74	89	306	1.3
MINERAL ITEMS	53	37	43	66	69	268	1.1
GLASS ITEMS-NEC	43	26	37	77	68	251	1.1
LADDERS	43	32	38	62	63	238	1.0
ELECTRICAL APPARATUS	36	39	28	59	66	228	1.0
CHEMICALS	36	39	33	58	50	216	0.9
HOISTING APPARATUS	19	12	27	34	54	146	0.6
FLAME, FIRE, SMOKE	20	14	16	27	31	108	0.5
BOILERS & PRESSURE VESSELS	17	17	16	31	24	105	0.4
PERSONS	19	12	16	14	21	82	0.3
MECHANICAL POWER APPARATUS	9	12	13	18	23	75	0.3
PARTICLES-UNS	30	20	4	7	12	73	0.3
COAL & PETROLEUM PRODUCTS	32	14	2	10	6	64	0.3
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

3.4 Type of Event

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
OVEREXERTION	893	796	814	1,108	1,261	4,872	20.6
STRUCK BY	642	575	676	1,009	1,014	3,916	16.5
FALL FROM ELEVATION	535	563	580	893	832	3,403	14.4
EVENT TYPE-UNS	362	408	674	635	677	2,756	11.6
BODILY REACTION	474	423	440	610	652	2,599	11.0
FALL ON SAME LEVEL	212	202	259	307	364	1,344	5.7
CAUGHT IN, UNDER OR BETWEEN	218	234	208	297	284	1,241	5.2
STRUCK AGAINST	157	169	204	311	347	1,188	5.0
VEHICLE INCIDENTS	108	122	141	140	206	717	3.0
RUBBED OR ABRADED	175	143	119	145	129	711	3.0
CONTACT NOXIOUS SUBSTANCE	65	59	60	82	104	370	1.6
TEMPERATURE EXTREMES	68	43	61	76	81	329	1.4
EVENT TYPE-NEC	41	36	41	53	54	225	1.0
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

3.5 Duration of Disability

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
01 - 05 DAYS LOST	1,064	1,024	1,244	1,648	1,770	6,750	28.5
06 - 10 DAYS LOST	593	482	536	806	791	3,208	13.6
11 - 15 DAYS LOST	311	299	363	438	466	1,877	7.9
16 - 20 DAYS LOST	212	216	240	326	320	1,314	5.6
21 - 30 DAYS LOST	296	312	357	446	452	1,863	7.9
31 - 40 DAYS LOST	228	228	224	318	327	1,325	5.6
41 - 50 DAYS LOST	213	166	209	259	254	1,101	4.7
51 OR MORE DAYS LOST	987	971	1,023	1,309	1,493	5,783	24.4
DAYS LOST-UNSPECIFIED, 0	46	75	81	116	132	450	1.9
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

4. Characteristics Of The Injured Worker

4.1 Occupation of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
CONSTRUCTION OCCUPATIONS	1,999	1,924	1,864	2,655	2,897	11,339	47.9
OCCUPATION-UNS	645	652	1,090	952	714	4,053	17.1
MACHINING	332	316	328	458	488	1,922	8.1
OCCUPATION-NEC	210	190	255	425	688	1,768	7.5
FABRICATING, REPAIR	224	207	214	328	327	1,300	5.5
TRANSPORT OPERATORS	140	134	129	191	218	812	3.4
MATERIALS HANDLING-NEC	118	95	106	189	167	675	2.9
FARMING, FISHING & HUNTING	75	62	77	115	105	434	1.8
PROCESSING	61	46	63	79	103	352	1.5
CLERICAL	25	35	30	83	70	243	1.0
OIL & GAS FIELD, MINING	44	27	24	52	57	204	0.9
FORESTRY & LOGGING	21	22	24	56	52	175	0.7
SERVICE OCCUPATIONS	19	18	27	27	49	140	0.6
PROFESSIONAL	11	17	13	26	25	92	0.4
MANAGERIAL, ADMINISTRATIVE	11	11	11	12	19	64	0.3
SALES	10	8	15	12	17	62	0.3
CRAFTS, EQUIP. OPERATING-NEC	5	9	7	6	9	36	0.2
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

4.2 Age of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
15-19 YEARS	196	172	223	391	370	1,352	5.7
20-24 YEARS	676	587	652	943	1,007	3,865	16.3
25-34 YEARS	1,436	1,260	1,469	1,799	1,869	7,833	33.1
35-44 YEARS	960	994	1,128	1,463	1,654	6,199	26.2
45-54 YEARS	446	480	556	701	778	2,961	12.5
55-64 YEARS	202	250	230	329	293	1,304	5.5
65 YRS AND OVER	23	21	15	30	26	115	0.5
AGE-UNSPECIFIED	11	9	4	10	8	42	0.2
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

4.3 Length of Time Employed

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
A. LESS THAN 1 MONTH	732	679	629	945	969	3,954	16.7
B. 1 MONTH TO < 6 MONTHS	1,090	996	965	1,500	1,625	6,176	26.1
C. 6 MONTHS TO < 1 YEAR	376	338	309	535	531	2,089	8.8
D. 1 YEAR OR MORE	1,043	1,004	941	1,076	1,214	5,278	22.3
E. TIME-UNSPECIFIED	709	756	1,433	1,610	1,666	6,174	26.1
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

4.4 Gender of Injured Worker

LOST-TIME CLAIMS ALBERTA: 1994 TO 1998	OCCURRENCE YEAR					Total	
	94	95	96	97	98	Number	Percent
MALE	3,798	3,634	4,035	5,310	5,677	22,454	94.9
FEMALE	123	105	115	211	228	782	3.3
GENDER-UNSPECIFIED	29	34	127	145	100	435	1.8
Total	3,950	3,773	4,277	5,666	6,005	23,671	100.0

5. Number of Employers that Received/Renewed a CoR in 1998

ACSA PIR Groups of Industries	Certified Employers	Cert. &Uncert. (#of Accounts)	% Certified
1. Drywall & Residential Construction	71	10,236	0.7%
2. Glaziers	7	483	1.4%
3. Industrial Construction	109	6,144	1.8%
4. Masonry	1	188	0.5%
5. Mechanical/Electrical/Insulation	75	3,651	2.1%
6. Roadbuilders	163	5,476	3.0%
7. Roofers	19	906	2.1%
8. Scaffolders	1	49	2.0%
All ACSA Industries	**446**	**27,143**	**1.6%**

6. Number of Participants in the ACSA PIR Groups: Alberta, 1998

ACSA PIR Groups of Industries	Number of Participants	(#of Accounts)	% Registered
1. Drywall & Residential Construction	55	10,236	0.5
2. Glaziers	18	483	3.7
3. Industrial Construction	167	6,144	2.7
4. Masonry	7	188	3.7
5. Mechanical/Electrical/Insulation	110	3,651	3.0
6. Roadbuilders	316	5,476	5.8
7. Roofers	38	906	4.2
8. Scaffolders	15	49	30.6
All ACSA Industries	**726**	**27,143**	**2.7**

7. Cost of Claims, Payroll and Premiums

7.1 All ACSA Industries

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	$13,482,857				
1995	$12,384,285	$15,327,847			
1996	$6,192,269	$11,918,017	$14,458,156		
1997	$5,721,981	$4,730,454	$12,984,844	$19,994,003	
1998	$4,718,608	$5,960,151	$8,008,707	$19,198,209	$24,959,301
Total Cost	$42,499,999	$37,936,469	$35,451,707	$39,192,212	$24,959,301

Total Payroll	$2,245,264,235	$2,236,380,648	$2,452,020,952	$3,145,118,662	$3,705,488,817
Total Premiums	$105,565,788	$98,830,180	$94,549,511	$105,687,959	$101,251,662

The above cost for claims, total payroll, and total premiums are for the five year period 1994 through 1998. The data is as of July, 1999.

The claim cost amount reflect only paid cost on claims which have occurred in the five year period. The cost are tracked by the occurrence year and year that the cost were transacted.

The total payroll have been totalled for each year. The premiums is the total of employer's premium paid for each year.

7.2 Partners in Injury Reduction(PIR) Groups Cost

Drywall & Residential Construction

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	$3,607,365				
1995	$3,746,691	$3,608,966			
1996	$1,686,414	$3,544,066	$3,450,773		
1997	$1,782,089	$1,008,043	$3,278,801	$5,578,667	
1998	$1,254,728	$1,234,293	$1,760,288	$6,168,488	$6,379,322
Total Cost	$12,077,287	$9,395,367	$8,489,862	$11,747,155	$6,379,322

Total Payroll	$470,963,708	$436,811,990	$491,611,463	$625,360,981	$767,449,529
Total Premiums	$23,906,009	$21,320,397	$21,285,134	$24,682,790	$26,277,142

Glaziers

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	$464,712				
1995	$295,069	$305,210			
1996	$189,913	$270,115	$445,842		
1997	$192,162	$85,029	$375,326	$659,243	
1998	$20,922	$66,472	$240,773	$519,426	$1,302,314
Total Cost	$1,162,778	$726,827	$1,061,941	$1,178,669	$1,302,314

Total Payroll	$94,516,076	$92,875,365	$103,047,828	$120,513,207	$140,206,137
Total Premiums	$4,037,000	$3,624,199	$3,362,959	$3,175,422	$3,384,115

Industrial Construction

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	$2,509,741				
1995	$2,548,018	$3,603,521			
1996	$1,764,058	$2,733,925	$2,896,285		
1997	$1,186,912	$1,791,549	$2,601,998	$3,446,554	
1998	$830,421	$1,311,909	$1,802,293	$3,302,047	$5,652,709
Total Cost	$8,839,151	$9,440,905	$7,300,576	$6,748,600	$5,652,709

Total Payroll	$472,129,395	$509,270,360	$558,022,709	$708,582,284	$872,077,894
Total Premiums	$24,436,138	$24,502,891	$23,425,772	$25,537,129	$23,889,039

Masonry

	Occurrence Year				
	1994	1995	1996	1997	1998
Transaction Year					
1994	$109,558				
1995	$124,203	$114,165			
1996	$20,797	$176,439	$115,716		
1997	$35,675	$27,037	$380,617	$171,089	
1998	$36,671	$125,155	$140,477	$276,121	$204,755
Total Cost	$326,904	$442,796	$636,810	$447,210	$204,755

Total Payroll	$17,186,224	$16,411,685	$17,132,956	$21,282,973	$24,947,183
Total Premiums	$1,342,325	$1,280,694	$1,193,193	$1,368,184	$1,042,167

Mechanical/Electrical/Insulation

	Occurrence Year				
	1994	**1995**	**1996**	**1997**	**1998**
Transaction Year					
1994	$1,738,263				
1995	$1,833,243	$1,771,435			
1996	$782,114	$1,751,655	$1,776,402		
1997	$697,805	$504,490	$1,622,077	$2,350,699	
1998	$1,020,875	$589,150	$1,028,968	$3,127,153	$3,329,932
Total Cost	$6,072,300	$4,616,730	$4,427,447	$5,477,852	$3,329,932

Total Payroll	$435,823,516	$443,261,830	$493,464,042	$606,482,135	$728,920,934
Total Premiums	$14,408,960	$14,364,226	$14,419,292	$15,399,810	$13,922,396

Roadbuilders

	Occurrence Year				
	1994	**1995**	**1996**	**1997**	**1998**
Transaction Year					
1994	$4,139,297				
1995	$2,799,529	$5,252,711			
1996	$1,167,786	$2,855,331	$4,763,911		
1997	$1,445,051	$1,072,977	$3,680,866	$5,954,529	
1998	$1,359,009	$1,901,466	$2,103,660	$4,347,834	$6,393,921
Total Cost	$10,910,673	$11,082,485	$10,548,437	$10,302,362	$6,393,921

Total Payroll	$680,623,115	$664,248,483	$703,278,587	$951,651,200	$1,041,784,787
Total Premiums	$31,274,094	$27,994,418	$24,862,954	$27,861,475	$24,958,827

Roofers

	Occurrence Year 1994	1995	1996	1997	1998
Transaction Year					
1994	$819,329				
1995	$960,904	$629,250			
1996	$534,620	$495,983	$977,802		
1997	$372,111	$177,548	$1,019,518	$1,757,186	
1998	$169,725	$631,027	$931,908	$1,361,193	$1,609,750
Total Cost	$2,856,689	$1,933,808	$2,929,228	$3,118,379	$1,609,750
Total Payroll	$56,164,578	$51,328,161	$63,252,915	$83,240,072	$93,135,876
Total Premiums	$5,234,698	$4,760,014	$5,161,797	$6,783,250	$6,950,570

Scaffolders

	Occurrence Year 1994	1995	1996	1997	1998
Transaction Year					
1994	$94,591				
1995	$76,628	$42,589			
1996	$46,567	$90,502	$31,424		
1997	$10,176	$63,781	$25,642	$76,036	
1998	$26,256	$100,679	$341	$95,949	$86,598
Total Cost	$254,218	$297,551	$57,407	$171,985	$86,598
Total Payroll	$17,857,623	$22,172,774	$22,210,452	$28,005,810	$36,966,477
Total Premiums	$926,563	$983,341	$838,411	$879,899	$827,408

8. Occupational Fatalities: Alberta, 1993 to 1998

An occupational fatality is the death of a worker which results from a work-related incident or exposure. Alberta Human Resources and Employment classifies occupational fatalities into three general event types: motor vehicle incidents; workplace incident; and occupational disease. Each of these three is described in more details below.

Motor Vehicle Incident
Motor vehicle incidents typically involve highway vehicles operating on public roads in which the fatally injured worker was either a driver or passenger. This category includes fatalities involving air plane crashes, train crashes, helicopter crashes, and so on.

Workplace Incident
Fatal workplace incidents consist of cases in which the worker dies at a work site, or dies as a result of injuries sustained at a work site. It is this type of occupational fatality that Alberta Human Resources and Employment may be responsible for investigating.

Occupational Disease
Occupational disease fatalities consist mostly of recognized occupational disease, that is, disease known to be primarily or exclusively work-related (eg., asbestosis, black lung disease). Occupational disease are frequently diagnosed many years after the initial or crucial exposure to the toxic substance, and in such cases it is very difficult to determine when the fatal exposure occurred. The occupational disease category, then, should not be interpreted to reflect present work site hazardous conditions or exposures.

Each year the WCB accepts some occupational fatality claims for compensation. The table below shows the number of fatality claims accepted by the type of event.

Description of WCB Accepted Fatalities
For Combined ACSA Industries
Alberta, 1993-1998

Year	Occupational Disease		Motor Vehicle incident		Workplace Incident		Total	
	N	%	N	%	N	%	N	%
1993	5	26.3	4	21.1	10	52.6	19	100
1994	2	13.3	3	20.0	10	66.7	15	100
1995	6	21.4	9	32.1	13	46.4	28	100
1996	5	23.8	7	33.3	9	42.9	21	100
1997	9	34.6	8	30.8	9	34.6	26	100
1998	16	45.7	5	14.3	14	40.0	35	100
Total	43	29.9	36	25.0	65	45.1	144	100

9. OHS Investigated Occupational Fatalities: Alberta, 1993 -1998

Drywall/Residential Construction (5)

YEAR: 1995 FILE: 0802
OCCUPATION: Truck Driver AGE: 19
INDUSTRY: Residential Construction
EXPERIENCE: 1 Year

DESCRIPTION: A worker was installing OSB sheeting on a flat roof of a 4 story condominium. The worker was retrieving a skill saw from the other end of the roof when he fell down an open elevator shaft. A second worker was on a temporary work platform in the shaft 7.6 metres below the roof. The worker falling form the roof tipped the platform and both workers fell the remaining 9.6 metres to the bottom of the elevator shaft. Investigators were unable to determine the immediate cause of this accident.

YEAR: 1995 FILE: 0804
OCCUPATION: Carpenter AGE: 24
INDUSTRY: Construction of Houses & Apartments
EXPERIENCE: 4 months

DESCRIPTION: Barn rafters, constructed of 2x6" machine stress lumber, measuring approximately 50' in length by 8' in height were used to construct a boiler barn. One rafter was placed in position and a 9' long 2"x6" prop board was positioned on the ground in such a way that it would support the rafters in an upright position. The ground was not, level, therefore the rafters were lifted slightly, manually, and levelling boards were placed beneath the ends of the rafters. The rafters were raised into upright position when the prop board slipped and the seven rafters fell to the ground. A worker was unable to get out of the path of the falling rafters and was knocked to the ground. He hit his head on the frozen ground which rendered him unconscious. The worker did not regain consciousness and died of his injuries.

YEAR: 1995 FILE: 0816
OCCUPATION: Homebuilder/Framer AGE: 42
INDUSTRY: Residential Construction
EXPERIENCE: 20 years

DESCRIPTION: Two residential framers built an on-site temporary scaffold, to allow them to lift up roof trusses and lay them on the scaffold flat, prior to setting them into position. The scaffold was built from 38 x 39 mm. spruce lumber uprights. Two planks were used for walking on and to support roof trusses.

After the scaffold was completed, one framer went up onto it while the other framer remained on the outside of the house and rigged up four of the roof trusses which were to be lifted by the crane into position. The trusses that were lifted onto the scaffold were then unhooked by the worker, who had to walk along the planks. Once lifted to the roof, the ends of the trusses were to rest on the walls and be supported in the middle by the temporary scaffold. This was carried out without any incident.

On the next lift six trusses were lifted. The six trusses were hoisted into position, then unhooked. The framer on the scaffold was working directly above a floor opening of 2.5 x 2 m. when the scaffold collapsed. This caused the worker to fall an additional 2.4 m. into the basement, a total distance of 6 m., fatally injuring him.

YEAR: 1997 FILE: 0856
OCCUPATION: Arborist AGE: 33
INDUSTRY: Landscaping, including Maintenance
EXPERIENCE: 1.5 years

DESCRIPTION: A self employed contractor was in the process of trimming tree tops and branches for a private residential owner using a truck mounted man-lift. The contractor had located his truck unit in the alley-way to the rear of the residence and had manoeuvred his man-bucket through a space of approximately 150cm (5 feet) between primary and secondary overhead power lines. Upon completing the trimming of one tree he was relocating his bucket to a position to allow him to trim a second. It was during this repositioning that it appears he backed the man/bucket towards a 14KVA power line and came into contact with it and was electrocuted.

YEAR: 1998 FILE: 0908
OCCUPATION: Journeyman Roofing Supervisor AGE: 62
INDUSTRY: Residential Construction/Renovations
EXPERIENCE: 29 years

DESCRIPTION: Two roofers were installing asphalt shingles on the roof of a 4-storey building. The workers were wearing their safety belts and lines during the installation of the shingles. They had completed a section of the roof and had used up their open bundles of shingles. The workers decided to take a break before changing over to the new location that need to be shingled.. One of the workers went back up on the roof and decided to install a left over piece of ice dam material on the new location of the roof. He did not use the fall protection equipment available for his use when he went to the eaves of the building. The worker fell approximately 12 metres to the ground below, landing on stacked bundles of roofing shingles, resulting in death.

Glaziers (0)
There was no OHS investigated occupational fatalities for the period 1993 to 1998.

Industrial Construction (14)
1993-1996: 8 OHS INVESTIGATED OCCUPATIONAL FATALITIES

YEAR: 1997 FILE: 0864
OCCUPATION: Ironworker AGE: 41
INDUSTRY: Structural Steel Erection
EXPERIENCE: 22 years

DESCRIPTION: A large warehouse style building was being constructed at a construction site in southeast Calgary. The crew were erecting roof and crane beams on gridlines on 1 to 4 and beamlines A to D. They had completed erecting all the beams on gridline 1 and had erected the roof beams leaving a tie beam to be put between 2B and 2C. The crane beams were erected and the two ironworkers were standing on the crane beam waiting for the crane to lift the tie beam into position, when column 2C began to fall towards gridline 1. The columns were all interconnected by the crane beams and all of them fell to the ground along with the two workers. One ironworker was fatally injured and his colleague suffered the loss of a portion of his leg.

YEAR: 1997 FILE: 0883
OCCUPATION: AGE: 55
INDUSTRY: Mach/Equip. Heavy, Inst/Svce
EXPERIENCE:

DESCRIPTION: A worker dies as a result of injuries sustained from a fall off a lumber transfer deck at a saw mill.

YEAR: 1998 FILE: 0892
OCCUPATION: Swamper AGE: 49
INDUSTRY: Industrial Construction
EXPERIENCE: 31 years

DESCRIPTION: The site was the extension of an existing parkade. The external cement shell for one of the stairwells for the project was erected and a second stairwell was in the process of being erected. During the erection of the first stairwell, two temporary work platforms had been installed inside the structure. Workers began the process of installing the cement stairs and landings within the stairwell. They worked in a progressive manner from the base of the structure up. They would install the cement formworks for 2 sets of stairs and 2 landings. This was followed by the installation of reinforcing bar and the pouring of the cement. Once the cement had cured they stripped out the formworks, installed temporary guardrails and began to assemble the formworks for the next sets of stairs and landings. This continued until the formworks approached the lower of the two temporary work platforms still present in the stairwell. Three workers were given he task of dismantling the platform. The workers accessed the platform from the newly created landing and from the formworks in place for the next set of stairs and landing. There was no provision for fall protection at that level, they were working in an area where the temporary guardrails had not yet been installed. They removed the decking, support beams and most of the cement anchor bolts supporting the platform. Two of the three workers went down the stairs to exit the structure. The third worker was removing the formworks for a set of stairs. The worker slipped and fell through the vertical void between the landings and stairs to the cement at the base of the structure, a total of 9.1m.

YEAR: 1998 FILE: 0896
OCCUPATION: Labourer AGE: 39
INDUSTRY: Industrial Labour Manpower Services
EXPERIENCE: four days, although previously at work site

DESCRIPTION: Two labourers were assisting the operator of a crane to unload a 5.67 tonne heat exchanger vessel from a hi-boy trailer and to move it to an area where it could be sandblasted and then painted. They attached slings to the vessel. After the crane operator lowered the vessel from the trailer and was positioning the load for the carry, the labourers moved to opposite ends of the vessel. The operator backed up the crane for about 8 metres while the two labourers steadied the vessel by holding on to the ends. As the operator began a 90 degree turn, the crane tipped on its right side. The top of the boom struck a labourer, causing fatal injuries, while he may have been trying to avoid being struck by the vessel.

The investigation found that the crane operator and the two labourers were not appropriately trained to move the vessel. The employer did not have a qualified person on site who could supervise the operation of the crane. Further, the crane was in poor operating condition which may have contributed to the incident, and it was not being used as per manufacturer's recommendations. In addition, the ground conditions, both the slope and soft soil conditions, were contributing factors in the incident.

YEAR:	1998	FILE:	0906
OCCUPATION:	Ironworker	AGE:	36
INDUSTRY:	Erection/Removal of Prefabricated Steel Structures		
EXPERIENCE:	20 years		

OCCUPATION:	Ironworker	AGE:	28
INDUSTRY:	Erection/Removal of Prefabricated Steel Structures		
EXPERIENCE:	4 years		

DESCRIPTION: A pre-engineered industrial building was being erected. Three ironworkers proceeded to move a 10-metre high rolling scaffold from one exterior corner of the structure to another exterior corner. Positioned around the scaffold, they moved the scaffold about 17 metres when it contacted 13000 volt, 3 phase overhead power lines. Two of the workers were electrocuted and a third was seriously injured.

The investigation found that the power lines were not considered in the move. There was no indication that the movement of the scaffold was planned. In addition, construction material stored on the ground near the building partially obstructed a safe route to move the scaffold. There were also no warning signs, barriers, or safe work procedures in place to prevent workers or equipment from coming into contact with the overhead power lines.

Masonry (0)

There were no OHS investigated occupational fatalities for the period 1993 to 1998.

Mechanical/Electrical/Insulation (4)

YEAR:	1995	FILE:	0813
OCCUPATION:	Elevator Constructor	AGE:	41
INDUSTRY:	Install Elevators and Escalators		
EXPERIENCE:			

DESCRIPTION: A licensed mechanic was asked to repair escalators at a Mall in Calgary. Two helpers had removed most of the decking off the escalator. Since the worker did not need any more assistance, the other workers started working on the second escalator. The worker had removed the skirting angles and had indicated that he was going to loosen the handrail tension sheaves to get the handrail off the first escalator. Whilst working on the second escalator, the other workers heard a scream from the first escalator. One of the helpers stopped the first escalator with the emergency stop button located at the bottom of the escalator. The worker was crushed against the upper landing plate of the escalator and fatally injured. The worker had originally turned the equipment off and subsequently reactivated it, to jog the escalator in order to remove the handrail drive chain.

YEAR:	1997	FILE:	0861
OCCUPATION:	Plumber	AGE:	41

INDUSTRY: Mechanical Contracting (Plumbing, Steam, Gas Fitting)
EXPERIENCE: 10 years

DESCRIPTION: A 2.28 metre deep trench was excavated for the purpose of installing a water and sewer pipeline. The plumber entered the trench and walked about 15 metres to where the water pipeline was being uncoiled and installed. The backhoe was in operation about 3 metres from the uncoiled water pipeline. The plumber was turning back when a large slab of earth dislodged from the trench wall and struck him, burying him from the chest down. The backhoe operator and the plumber's neighbour uncovered the plumber who was semi-conscious. The plumber died of internal injuries at Foothills Hospital in Calgary.

YEAR: 1998 FILE: 0905
OCCUPATION: Sprinkler Filter AGE: 29
INDUSTRY: Installation and Servicing of Fire Sprinkler System
EXPERIENCE: 20 years

DESCRIPTION: The journeyman and his apprentice had been raising two parallel sections of existing sprinkler line by turning the threaded pipe hanger rod. Both workers were stationed on a platform secured to an overhead crane. Each of the parallel sections of sprinkler line that the workers had been raising were supported by two clevis pipe hangers and had the flange bolts removed at each end. Both workers secured their fall protection lanyard to the section of the sprinkler line they were raising. As the journeyman was turning the threaded pipe hanger rod, he inadvertently unthreaded the nut at the base of the rod. This resulted in his section of the sprinkler line dropping onto the platform and sliding off the crane. The journeyman, whose lanyard was attached to the line, fell with the sprinkler line approximately 13 metres to the concrete floor, resulting in death.

YEAR: 1998 FILE: 0898
OCCUPATION: Electrician AGE: 23
INDUSTRY: Electric Wiring
EXPERIENCE:

DESCRIPTION: An electrician was drilling holes through the wall of a small building, working alone from the inside, while standing on a stepladder. The worker was using a drill with a hole-saw bit, powered by a generator set at 110 volts. All other workers were outside the shack. The worker had completed the second of two holes, and another worker witnessed the bit coming through and then being withdrawn. When the building was entered a short time later, the electrician was found unconscious on the floor, and efforts to revive him failed.

The investigation found no evidence of a fall from the ladder. The Medical Examiner concluded that the death was due to low-voltage electrocution. Testing by an independent engineering firm and a standards association did not find any faults with the power drill or the generator. The investigation was unable to determine what the worker might have touched that would have resulted in electrocution.

Road builders (30)

1993-1997: 25 OHS INVESTIGATED OCCUPATIONAL FATALITIES

YEAR: 1998 FILE: 0886
OCCUPATION: Welder AGE: 32
INDUSTRY: Mobile Equipment Operations
EXPERIENCE: 8.5 years

DESCRIPTION: A company was contracted to dismantle a bitumen pilot plant. To move a roll crusher from its concrete foundation, the contractor moved a 50 ton truck crane to the site. At the time of the lift, the crane was equipped with 37 metres of boom and was operating at a radius of 8 metres. The crusher was to be lifted off the elevated concrete foundation and set to the side, to facilitate dismantling the conveyor.

Workers attached slings to the roll crusher. The crane hook was attached and the lift started. The crusher was raised slightly from its foundation and held, while the outriggers were checked to ensure that they were solidly planted on the ground. After receiving a signal from the designated signaller, the crane operator continued with the lift and slowly swung the load to the right. The boom buckled and collapsed to the crane operator's right. The signal man ran in the same direction, and was hit and pinned by the collapsed boom. He later died in hospital.

YEAR: 1998 FILE: 0893
OCCUPATION: Equipment Operator AGE: 59
INDUSTRY: Pipeline Construction
EXPERIENCE: 2 years

DESCRIPTION: A heavy equipment operator was operating a Timberjack used to haul sandblasting equipment for the purpose of sandblasting 18" pipe on a pipeline. The operator stopped the Timberjack on the pipeline right-of-way alongside the pipe, exited, and was walking away from the equipment when apparently the operator noticed the equipment moving. The operator tried to jump back into the Timberjack and fell between the left front chain-covered wheel and the dozer blade lifting mechanism of the machine. The operator received crushing injuries to his head and torso resulting in a fatality.

YEAR: 1998 FILE: 0894
OCCUPATION: Truck Driver AGE: 55
INDUSTRY: Mobile Equipment Operations
EXPERIENCE: unknown

DESCRIPTION: The driver was working alone in moving a large crawler type excavator to the construction site for a new compressor station. He was operating a tractor trailer unit on a temporary access road without a gravel base. The road had a short section with a sharp hill having an average grade of 14%. Vehicles trying to ascend the hill could not attain any speed at the bottom due to a 45 degree curve. A new road with less grade had just been finished.

While attempting to traverse the steep grade, without chains or the full use of the driving wheels, the truck spun out at the crest of the hill. In trying to back down the hill, the tractor trailer unit jackknifed across the road. The driver offloaded the tracked excavator and then went to get a nearby D8K crawler tractor in an attempt to pull the truck up the hill. The first attempt to pull the truck failed as the brakes on the trailer unit had not been disengaged and the chain from the crawler tractor to the truck tractor broke. The truck slid further downhill. When the driver was subsequently in the process of attaching a second chain, the crawler tractor backed over him. The brakes had not been set on the crawler tractor.

YEAR: 1998 FILE: 0895
OCCUPATION: Truck Driver AGE: 44
INDUSTRY: Mobile Equipment Operations/Road Construction/Land Clearing
EXPERIENCE: 10 years

DESCRIPTION: The truck driver had backed his tandem dump truck and trailer parallel to the working face of a gravel stockpile to load gravel. The stockpile of gravel was estimated to be 9 m. high and the average size of gravel was about 50 mm. A front end loader was parked at the base of the stockpile. The truck driver exited his vehicle and proceeded to the rear of the truck to secure the spreader chains. As he secured one of the spreader chains, a large portion of gravel sloughed down from the stockpile. The truck driver attempted to flee the immediate area by taking a path between the rear portion of the loader and trailer. The force of the descending gravel pushed the dump trailer sideways pinning the truck driver against the side of a parked front end loader, fatally injuring him.

YEAR: 1998 FILE: 0910
OCCUPATION: Tow Tractor Operator/Truck Driver AGE: 43
INDUSTRY: Mobile Equipment Operations/Road Construction/Land Clearing

EXPERIENCE: 29 years

DESCRIPTION: A construction crew was installing fibre optic cable in a ditch, 1.5 metres below ground, using a cable plow (a machine which threads cable underground). During the installation the crew approached an irrigation canal and roadway in their path. The crew had to stop plowing to disconnect the fibre optic cable from their plow. The procedure was to feed the cable through a previously installed conduit placed under the canal and roadway. A trench had to be dug alongside the cable plow to release the fibre optic cable. When the cable was released and uncoiled, they relocated the plow to the other side of the canal to receive the fibre optic cable.

A previously installed conduit was sticking out of the ground alongside the trench. Therefore, the trench that was dug to free the cable from the plow had to be offset and extended to expose the conduit. Once the conduit was exposed, the hi-hoe operator entered the trench and cut the conduit off at the 1.5 metre depth. While pulling the fibre optic cable through the conduit, it got caught.

The tow tractor operator entered the trench to realign the cable when the trench wall collapsed fatally injuring him.

Roofers (6)

YEAR: 1993 FILE: 0779
OCCUPATION: Roofer AGE: 40
INDUSTRY: Roofing
EXPERIENCE: 11 years (approx.)

DESCRIPTION: A roofer working alone fell from a roof landing on the ground 4.26 metres below. The worker died in hospital three weeks later from the injuries received from the fall. The worker had not been wearing any fall protection while working on the roof. When he started the job early in the morning weather conditions were sunny and dry. Prior to the accident conditions became worse--snow began falling making the roof slippery. The worker was in the process of putting the last 6 metres of starter metal on the edge of the roof when he fell 4.26 metres to the ground below sustaining injuries which were not considered life threatening at the time. .

YEAR:	1994	FILE:	0780
OCCUPATION:	Roofer	AGE:	28
INDUSTRY:	Roofing		
EXPERIENCE:	at least 5 years		

DESCRIPTION: While sweeping the snow and frost from the roof of a new senior citizens residence in Calgary, a worker fell approximately 12.5 m to the ground sustaining fatal injuries. The investigators concluded that the worker fell from the roof because he was not provided with and was not using any form of fall protection, particularly in light of the slippery conditions that existed from the snow and frost on the roof at the time.

YEAR:	1997	FILE:	0866
OCCUPATION:	Carpenter	AGE:	24
INDUSTRY:	Roofing		
EXPERIENCE:	Unspecified		

DESCRIPTION: As part of the house construction, the fascia and windows on the north side of the house had been installed. The contractor decided that the scaffold should be moved from the north to the south side of the house, using the driveway as an unobstructed path. The three workers and the site owner proceeded to move the 4-tier scaffold. As the scaffolding began to move, the owner was distracted by a neighbour's call and released her grip on the scaffold. The upper poles of the scaffold made contact with the neutral ground wire and then the high voltage wire that ran parallel to the driveway. One worker was fatally injured due to electrocution.

YEAR:	1997	FILE:	0880
OCCUPATION:		AGE:	54
INDUSTRY:	Roofing		
EXPERIENCE:			

DESCRIPTION: A worker was killed in Edmonton when he fell 8 metres from the roof of a warehouse. He had been using a power broom to sweep gravel away in order to male repairs, when he back up and tripped over the lip of the roof.

YEAR:	1998	FILE:	0905
OCCUPATION:	Sprinkler Filter	AGE:	29
INDUSTRY:	Installation and Servicing of Fire Sprinkler System		
EXPERIENCE:	20 years		

DESCRIPTION: The journeyman and his apprentice had been raising two parallel sections of existing sprinkler line by turning the threaded pipe hanger rod. Both workers were stationed on a platform secured to an overhead crane. Each of the parallel sections of sprinkler line that the workers had been raising were supported by two clevis pipe hangers and had the flange bolts removed at each end. Both workers secured their fall protection lanyard to the section of the sprinkler line they were raising. As the journeyman was turning the threaded pipe hanger rod, he inadvertently unthreaded the nut at the base of the rod. This resulted in his section of the sprinkler line dropping onto the platform and sliding off the crane. The journeyman, whose lanyard was attached to the line, fell with the sprinkler line approximately 13 metres to the concrete floor, resulting in death.

Scaffolders (0)

There were no OHS investigated occupational fatality for the period 1993 to 1998.

Appendix A: Terms, Definitions, and Formulas

Lost-Time Claim	A lost-time claim (LTC) is a claim for an occupational injury or disease which disables the worker beyond the day of injury. Included are claims for which wages compensation are paid, permanent disability claims, fatalities, and cases in which the injured worker is assigned light duties or other modified work.
Person-Years	Person-year estimates are calculated from wage and payroll data provided by account holders to the WCB. Alberta Labour uses these data to estimate. An average industry wage, and uses the average industry wage and employer payroll data to estimate person-years foe each employer and each industry. One person-year ie equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.
LTC Rate	The lost-time claim (LTC) rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The LTC rate represent the probability or risk of disabling injury or disease to a worker during a period of one year's work. Comparisons of LTC rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk. $\text{LTC Rate} = \frac{\text{Number of LTCs X 100}}{\text{Estimated Person-years}}$
Duration (Days Lost)	The duration of disability is the number of days following the injury or disease for which the worker was disabled, and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from WCB. Alberta Labour obtains these data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of lost-time injury and disease.
Duration Rate	The duration rate is calculated by dividing the number of work days lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as "days lost per 100 person-years worked", and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic cost. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims. $\text{Duration Rate} = \frac{\text{Disability Days X 100}}{\text{Estimated Person-Years}}$
WCB Accepted Fatality	An occupational fatality is the death of a worker which result from a work-related incident or exposure and which has been accepted by the WCB for compensation. A fatality is counted in the year it is accepted.
NEC	Means "Not Elsewhere Classified"
UNS	Means "Unspecified"

Appendix B: ACSA 1998 Industry Codes

ACSA Groups of Industries	Industries
1. Drywall/Residential Construction	02100 - Landscaping Including Maintenance
	40401 - Construction, Residential
	42111 - Painting & Decorating
	42113 - Tile & Terrazzo, Sale/Install
	42115 - Paving Stone, Sale/Install
	42125 - Floor Covering, Sale/Install
	42133 - Cabinets/Counters, Asb./Install
	42135 - Drywall, Plaster, Lath, Stucco, Etc.
	42136 - Sprinklers, Underground, Asb./Install
	42141 - Acoustic Materials, Sale/Install
2. Glaziers	30302 - Overhead Doors, Install/Repair
	42121 - Glass/Door/Window, Mfg/Asb./Inst
3. Industrial Construction	40400 - Construction, Industrial
	42104 - Construction, Concrete
	42105 - Steel/Metal Structures- Erect
	42106 - Steel, Structural- Erect
	42109 - Mach/Equip. Heavy, Inst/Svce
	42120 - Sand Blasting
	42127 - Fence Sales, Rent, Install
	42156 - Tanks/Storage - Erect/Dismtle
	42159 - Caisson Ops. & Foundation Boring
	42161 - Concrete, Precast - Erect
	51504 - Cathodic Protection Services
	62302 - Mach/Equip, NEC-Sale/Svce/Repair
	86911 - Manpower Services- Industrial Labour
	89401 - Welding
	89605 - Service Station Equip., Supply/Svce
4. Masonry	42102 - Brick & Masonry - Construction
5. Mechanical/Electrical/Insulation	31508 - Overhead Cranes, Svce Only
	42110 - Elevators/Escalators, Install/Repair
	42117 - Heating System(HVAC)- Fab/Inst
	42122 - Plumbing, Gas Fitting
	42124 - Electric Wiring
	42144 - Sprinklers, Fire - Inst/Svce
	42184 - Insulation, Mech. - Inst/Svce
	89600 - Refrigeration, Sale/Svce

Appendix B: ACSA 1998 Industry Codes (continued)

ACSA Groups of Industries	Industries
6. Roadbuilders	02200 - Right-of-Way Maintenance 34800 - Transit Mix Operations 40602 - Paving & Surfacing 40604 - Mobile Equip Ops & Road Const. 40901 - Power/Phone Line-Const/Remove 40905 - Construction, Pipeline 42103 - Drilling, Horizontal/Angular 42155 - Moving of Buildings
7. Roofers	42118 - Roofing 42139 - Industrial Coating Services 42151 - Siding/Eavestrough - Mfg/Inst
8. Scaffolders	89928 - Scaffold/Crane, Rent/Erect

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